

IMAGES IN CARDIOLOGY

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Impending coronary perforation after cutting balloon angioplasty

Cutting balloon angioplasty was used to treat an in-stent restenotic lesion. Intravascular ultrasound (IVUS) revealed profound dissection (below left, arrows), and deep vessel wall injury reaching the adventitia with haematoma formation (below left, club). After intravascular ultrasound, angiography revealed minor extravasation of contrast medium (below right). Eventually, cardiac tamponade developed and a pericardial tap was necessary. The bleeding was finally controlled with prolonged inflation using a perfusion balloon. The cutting balloon has three tiny stainless steel blades running longitudinally alongside the surface of its balloon that, from a cross sectional view,

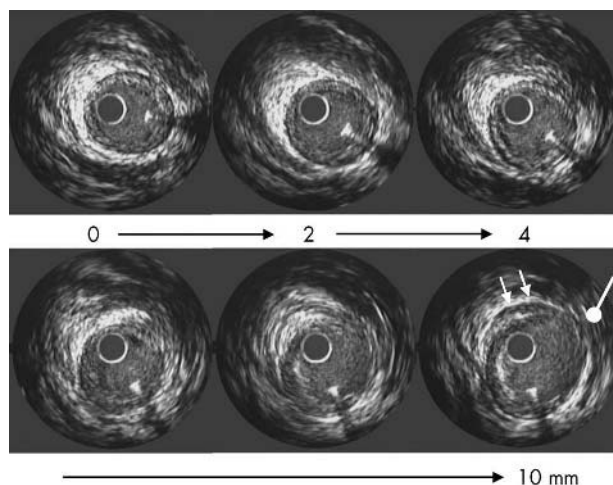
resemble the Mercedes Benz symbol. Cutting balloon angioplasty is designed to reduce vessel wall trauma by carefully incising the plaque with controlled dilation of the balloon. Recent data show efficacy of cutting balloon angioplasty in the treatment of in-stent restenosis. However, when the cutting blade reaches thin soft plaque outside the stent, judicious inflation may be required to minimise the risk of complication.

J Ako

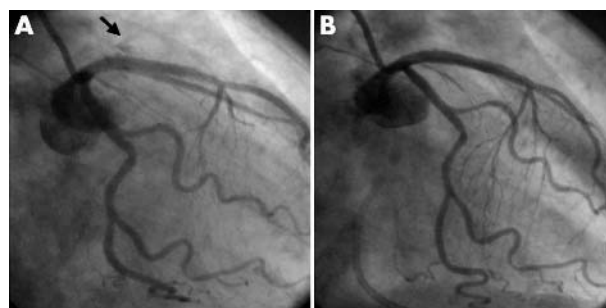
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Intravascular ultrasound images are shown. Each image is 2 mm apart. Dissection (arrows), tear in the adventitia (club), and low echoic haematoma are demonstrated outside the vessel.



(A) Angiogram showing extravasation in the distribution of the proximal left anterior descending artery (arrow). (B) Bleeding was controlled with prolonged inflation using a perfusion balloon.